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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of )  
 )  
Advanced Television Systems )  
and Their Impact Upon the )  
Existing Television Broadcast )  
Service )

MM Docket No. 87-268

To: The Commission

**SUPPLEMENTAL ENGINEERING INFORMATION  
TO SUPPORT  
PETITION FOR RECONSIDERATION OF  
JEFFERSON-PILOT COMMUNICATIONS COMPANY**

By its attorneys and pursuant to the Commission's July 2, 1997, Order in the above-captioned proceeding, Jefferson-Pilot Communications Company ("Jefferson-Pilot"), licensee of WWBT(TV), NTSC Channel 12, Richmond, Virginia, hereby submits supplemental engineering information to support its June 13, 1997 Petition for Reconsideration ("Petition") of the Commission's Sixth Report and Order ("Sixth R&O") in this docket.<sup>1</sup> Jefferson-Pilot has requested that WWBT be assigned DTV Channel 11, in lieu of Channel 54, to provide digital transmissions to the Richmond area during the transition period.

Jefferson-Pilot's Petition set forth several public interest goals that would be served by the assignment of DTV Channel 11 to WWBT. First, the requested change would allow

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<sup>1</sup> See DA 97-1377 (rel. July 2, 1997) (allowing petitioners requesting reconsideration of individual allotments to file supplemental information 45 days after the release of OET Bulletin No. 69); Sixth R&O, FCC 97-115, released April 21, 1997, 62 Fed. Reg. 26684 (May 14, 1997).

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Jefferson-Pilot to avoid the business planning uncertainties inherent in the use of DTV Channel 54, which is outside the DTV “core spectrum” and thus would force WWBT to relocate its digital operations at the end of the transition period.<sup>2</sup> Further, using Channel 11 for DTV operations will help WWBT overcome significant engineering difficulties that the use of Channel 54 poses because of the age and location of the station’s current antenna tower.<sup>3</sup> Consequently, Jefferson-Pilot expects that WWBT will be able to bring DTV broadcasts to viewers in a more timely fashion on Channel 11 than on Channel 54.

The attached Engineering Statement of Robert W. Denny, Jr., indicates that Jefferson-Pilot’s request can be readily accommodated.<sup>4</sup> Analysis employing the best available DTV propagation model shows that WWBT’s use of Channel 11 for DTV broadcasts would not result in new predicted interference to any other DTV allotment.<sup>5</sup> The engineering analysis indicates that WWBT’s use of Channel 11 would create some potential for interference with the co-channel NTSC operations of WBAL-TV, Baltimore, Maryland, and WTVD(TV), Durham, North

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<sup>2</sup> See Petition at 2-3. Jefferson-Pilot anticipates that the final home for its digital operations will be its current NTSC Channel 12. As the Petition explains, the use of DTV channel 54 for the transition will not simply entail a “second move” but also would force WWBT to design and install a UHF transmission system that would be rendered superfluous at the end of the transition period. *Id.* at 3; see also Opposition of Jefferson-Pilot Communications Company to the Petition of Shenandoah Valley Educational Television Corporation for Partial Reconsideration, MM Docket No. 87-268 (filed July 18, 1997) (“Jefferson-Pilot Opposition”).

<sup>3</sup> See Petition at 3 (explaining difficulties in adapting current tower facility to bear the weight of the heavy transmission line needed for operating channel 54).

<sup>4</sup> Robert W. Denny, Jr., Engineering Statement in Further Support of Petition for Reconsideration of Jefferson-Pilot Communications Company, Aug. 21, 1997 (“Engineering Statement”).

<sup>5</sup> *Id.* at 3.

Carolina, but that this potential for interference can be mitigated by WWBT's use of a directional antenna.<sup>6</sup> Jefferson-Pilot reiterates here its willingness to work with the Commission's staff to fashion modifications to the station's DTV operating parameters in order to address these issues.<sup>7</sup> With respect to the potential for "a small amount of adjacent channel interference" to the NTSC operations of WAVY-TV, Portsmouth, Virginia, Jefferson-Pilot already has shown that the potential interference would be limited to a very small area lying well outside WAVY's Designated Market Area ("DMA").<sup>8</sup>

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<sup>6</sup> Id. at 4 (advising that "a simple directional antenna exhibiting a 'Figure 8' radiation pattern in the horizontal plane with main lobes directed east and west and nulls directed north and south" would shield WBAL's and WTVD's co-channel operations).

<sup>7</sup> See Petition at n.2.


<sup>8</sup> See Engineering Statement at 3, 5; Reply of Jefferson-Pilot Communications Company to the Opposition of WAVY Television, Inc. (filed July 31, 1997). The engineering analysis attached to Jefferson-Pilot's Reply showed that only about 110 square kilometers and 1,000 households would be subject to new predicted interference if WWBT's DTV signal on Channel 11 were added to the NTSC signals already causing interference to WAVY. Furthermore, the most recent ratings information available indicates that only about 24 WAVY viewers reside in the small section of Charles City County that would receive "new" interference from WWBT digital broadcasts on Channel 11. Id. at 3-4.

Jefferson-Pilot also has responded to the Petition of Shenandoah Valley Educational Television Corporation ("Shenandoah Valley"), licensee of WVPT(TV), Staunton, Virginia, which requested that it be permitted to use Channel 11, rather than Channel 19, for its digital operations in order to protect its translator operations on Channel 19. See Jefferson-Pilot Opposition. The Commission in this proceeding has adhered to its long-standing policy determination that secondary stations not be accorded the same status or level of interference protection given to full-power stations during the DTV transition. See, e.g., Sixth R&O at ¶¶ 141-143. Accordingly, the protection of Shenandoah Valley's translator operations on Channel 19 should not be deemed to outweigh the public interest benefits that would result from a grant of the Jefferson-Pilot Petition.

In sum, the record in this proceeding shows that authorizing Jefferson-Pilot to use Channel 11 for its DTV operations during the transition period will serve the interests of WWBT's viewers without causing harm to other stations or their viewers in adjacent markets. Accordingly, the Commission should grant the Jefferson-Pilot Petition and assign Channel 11, in lieu of Channel 54, to WWBT for DTV operations during the transition period.

Respectfully submitted,

JEFFERSON-PILOT COMMUNICATIONS  
COMPANY

By: 

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of

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Its Attorneys

August 22, 1997

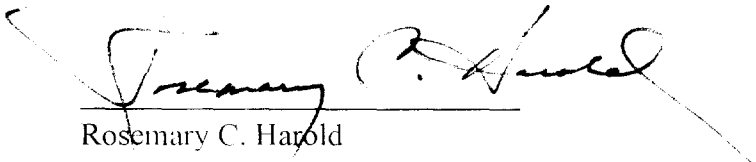
**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing Supplemental Engineering Information to Support the Petition for Reconsideration of Jefferson-Pilot Communications Company was served via First Class mail this 22nd day of August, 1997, to the following:

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Rosemary C. Harold

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August 21, 1997

**VIA HAND DELIVERY**



Rosemary Harold, Esquire  
Wiley, Rein & Fielding  
Suite 1100  
1776 K Street, NW  
Washington, DC 20006-1301

Re: WWBT, Richmond, Virginia

Dear Rosemary:

Enclosed are the "Original" and 14 copies of our engineering statement prepared on behalf of Jefferson-Pilot Communications Company in response to Further Support of Petition for Reconsideration of the *Sixth Report and Order* in the DTV proceeding.

Please call if any question should arise concerning the statement.

Sincerely,

Robert W. Denny, Jr., P.E.

Enclosure

cc: Mr. R.W. Napier  
(with enclosure)

**ENGINEERING STATEMENT  
IN FURTHER SUPPORT OF  
PETITION FOR RECONSIDERATION  
MASS MEDIA DOCKET NUMBER 87-268  
PREPARED ON BEHALF OF  
JEFFERSON-PILOT COMMUNICATIONS COMPANY  
WWBT, RICHMOND, VIRGINIA**

This engineering statement has been prepared on behalf of Jefferson-Pilot Communications Company (Jefferson-Pilot) in further support of a Petition for Reconsideration in Federal Communications Commission (FCC) Mass Media Docket Number 87-268 requesting allotment of DTV channel 11 in lieu of DTV channel 54 at Richmond, Virginia, for use by station WWBT. In its initial Petition, Jefferson-Pilot showed the predicted DTV coverage for WWBT operating on DTV channel 11 with effective radiated power of 12.6 kilowatts and antenna radiation center height above average terrain of 241 meters.

The *Sixth Report and Order* in the above referenced docket provided limited technical guidance for evaluating channel substitutions of the type proposed by Jefferson-Pilot. Many believed that *OET Bulletin No. 69* would provide the methodology necessary to evaluate alternative DTV channel

proposals and requested that the FCC allow additional time to prepare technical showings using the bulletin's methodology. The FCC granted the request for additional time, but *OET Bulletin No. 69* did not provide a methodology for evaluating DTV coverage and interference that could be readily applied in cases such as this. The development of practical Windows- or DOS-based computer tools based on the *OET Bulletin No. 69* methodology will take far longer than the additional time allowed by the FCC for analysis. Even deployment of a UNIX-based computer system capable of directly executing the FCC-written computer code is expected to take longer than the additional time permitted by the FCC for analysis.

The National Telecommunications Information Agency (NTIA) has developed a publicly available DTV propagation model based on a methodology that is similar to the *OET Bulletin No. 69* methodology, and Jefferson-Pilot has used the NTIA model to evaluate its proposal to use DTV channel 11 at Richmond in place of noncore DTV channel 54. A summary of the results of that



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**CONSULTING ENGINEERS**  
**WASHINGTON, DC**

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WWBT, Richmond, Virginia

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study is presented herein together with a preliminary plan for the use of DTV channel 11 at Richmond by Jefferson-Pilot for WWBT.

The studies made with the NTIA propagation model show that use of DTV channel 11 at Richmond would not result in any new predicted interference to any other DTV allotment. The NTIA studies identified two areas of concern with respect to potential DTV interference to existing NTSC stations. The first area of concern is the potential for DTV interference to the cochannel NTSC operations of WBAL-TV, Baltimore, Maryland, and WTVD, Durham, North Carolina. The second area of concern is the potential for DTV interference to the lower first adjacent channel NTSC operation of WAVY-TV, Portsmouth, Virginia. The potential for cochannel interference can be mitigated by use of a directional DTV antenna by WWBT, and, as was shown in a previous engineering exhibit dated July 31, 1997, a small amount of adjacent channel interference to WAVY-TV is predicted well outside the Norfolk-Portsmouth-Newport News, Virginia, Designated Market Area (DMA) served by WAVY-TV. Further discussion of each of these concerns follows.

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**CONSULTING ENGINEERS**  
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With respect to cochannel interference, Jefferson-Pilot can use a directional antenna to limit the WWBT radiation on DTV channel 11 in the direction of WTVD and in the direction of WBAL-TV. WTVD and WBAL-TV are located south and north, respectively, of WWBT. The WWBT transmitter site is centrally located within the Richmond DMA, and the DMA is more extensive to the east and west of the site than to the north and south of the site. A simple directional antenna exhibiting a "Figure 8" radiation pattern in the horizontal plane with main lobes directed east and west and nulls directed north and south would allow WWBT to operate on DTV channel 11 at Richmond without resulting in new predicted interference to the cochannel NTSC operations of WTVD and WBAL-TV. No problems will arise with respect to service to Richmond from use of the directional antenna described above because the principal community lies in the same direction as one of the main lobes of radiation. The 36 dB $\mu$  F(50,90) contour arising from directional operation of WWBT on DTV channel 11 will enclose all of Richmond as required by Section 73.625(a)(1) of the FCC Rules.

With respect to adjacent channel interference, Jefferson-Pilot has shown in its earlier filings that use of DTV channel 11 at Richmond by WWBT is predicted to cause only small, isolated pockets of interference to the lower first adjacent channel NTSC operation of WAVY-TV. The NTIA model shows that any new DTV interference will fall in proximity to areas near the WAVY-TV Grade B contour that already are predicted to receive interference from existing NTSC stations. All of the new interference areas predicted to arise from the use of DTV channel 11 at Richmond lie well outside the Norfolk-Portsmouth-Newport News, Virginia, DMA served by WAVY-TV and well inside the Richmond, Virginia, DMA served by WWBT.

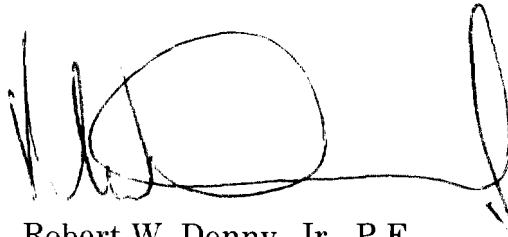
Jefferson-Pilot expects that further study using a TV coverage and interference prediction model that adheres strictly to the *OET Bulletin No. 69* methodology will yield virtually the same results as the NTIA model with respect to the use of DTV channel 11 at Richmond. Therefore, use of DTV channel 11 at Richmond by WWBT continues to be a viable alternative to the use of noncore DTV channel 54. Moreover, use of DTV channel 11 in lieu of DTV

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Engineering Statement  
WWBT, Richmond, Virginia

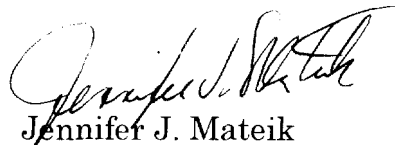
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channel 54 will facilitate and expedite Jefferson-Pilot's deployment of DTV at WWBT, allowing it to commence DTV service in Richmond at the earliest possible date.

A handwritten signature in black ink, appearing to read 'Robert W. Denny, Jr.', with a large, stylized loop in the middle.

Robert W. Denny, Jr., P.E.

Subscribed and sworn to before me this 21st day of August, 1997.

A handwritten signature in black ink, appearing to read 'Jennifer J. Mateik', with a large, stylized loop in the middle.

Jennifer J. Mateik  
Notary Public, District of Columbia  
My commission expires June 30, 2001